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REMARKS

The Official Action dated May 9, 2005 has been received and its contents noted, and the Examiner is thanked for his review and consideration of the present application.

Claims 1-10, 12, 15, 21, 23 and 24 are pending, of which claims 1-5 have been withdrawn from consideration. Claims 11, 13-14, 16-20 and 22 were previously cancelled. By this Amendment, independent claim 6 has been amended in order to better define that which Applicants regard as the invention.

Referring now to the Official Action, claims 6-10, 12, 21, 23 and 24 stand rejected under 35 U.S.C. §103 as being unpatentable over Burr et al. (U.S. Patent No. 5,923,987 – hereafter Burr) in view of Richards, Jr. et al. (U.S. Patent No. 5,786,620 – hereafter Richards, Jr.) and Sultan (U.S. Patent No. 5,970,353). Further, claim 15 stands rejected under 35 U.S.C. §103 as being unpatentable over Burr in further view of Tsukamoto (U.S. Patent No. 5,399,506). This rejection is respectfully traversed in that the combination provided in the Office Action neither discloses nor remotely suggests that which is now set forth by Applicants' claimed invention.

An objective of the present claimed invention is to provide a semiconductor device that can shallow the junction depths of extended high-concentration dopant diffused layer and pocket dopant diffused layer and minimize increase in junction leakage current and a method for fabricating the device, as supported in lines 20-24 of the specification. Claim 6 has been amended to further clarify the following steps: an amorphous layer and a dislocation loop layer are formed in the semiconductor region due to the indium ions implantation at an implant dose of about  $1\times 10^{14}$  to  $1\times 10^{16}/\text{cm}^2$ ; the pocket dopant diffused layer is formed having a peak dopant concentration produced by trapping indium ions in the dislocation loop layer; and the pocket dopant diffused layer and the extended high-concentration dopant diffuse layer are in contact at the peak dopant concentration of the pocket dopant diffused layer. Support for the amended implantation dose of indium ions can be found at least on, e.g., page 19, lines 22-25.

With respect to Burr, the reference discloses that an implant dose of the indium ions into the pocket region is  $5\times 10^{12}$  to  $5\times 10^{13}/\text{cm}^2$ . On the other hand, as amended in claim 6, the implant dose of indium ions is about  $1\times 10^{14}$  to  $1\times 10^{16}/\text{cm}^2$ , which is completely different and non-overlapped with the implant dose of Burr.

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With respect to Richards, Jr., the reference discloses forming the drain pocket implant region 100 and the source pocket implant region 102. However, Richards, Jr. is silent in regard to the conditions under which the drain pocket implant region 100 and the source pocket implant region 102 are formed.

With respect to Sultan, the reference fails to disclose any region corresponding to the pocket region of the presently claimed invention. The region 62 which the Examiner alleged as pocket dopant diffusion layers are the interstitial region 62 formed inside of the extension regions 66 and 67, as clearly illustrated in Fig. 14, and are not pocket dopant diffusion layers.

The requirements for establishing a *prima facie* case of obviousness, as detailed in MPEP § 2143 - 2143.03 (pages 2100-122 - 2100-136), are: first, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference to combine the teachings; second, there must be a reasonable expectation of success; and, finally, the prior art reference (or references when combined) must teach or suggest all of the claim limitations. At least for the reason that none of the cited prior art references teach, disclose or suggest that the pocket region is formed due to the indium implantation at an implant dose of  $1 \times 10^{14}$  to  $1 \times 10^{16}/\text{cm}^2$ , the combination of Burr, Richards, Jr. and Sultan is improper, and a *prima facie* case of obviousness has not been established.

With respect to claim 15, which has been rejected under 35 U.S.C. §103(a) over Burr as applied to claim 6 above and Tsukamoto, Applicants respectfully traverse for the reason that the patent to Tsukamoto fails to overcome the aforementioned shortcomings associated with the combination of Richards, Jr. and Burr.

As discussed previously, while the patent to Tsukamoto may teach that RTA processes are well known in the art, it is respectfully submitted that Tsukamoto fails to overcome the significant shortcomings associated with the combination proposed by the Examiner as discussed in detail hereinabove. Accordingly, it is respectfully submitted that Applicants' claimed invention as set forth in dependent claim 15 which includes all of the limitations of independent claim 6 clearly distinguishes over the combination proposed by the Examiner.

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Therefore, it is respectfully requested that the rejections of record be reconsidered and withdrawn by the Examiner, that claims 6-10, 12, 15 and 21, 23, 24 be allowed and that the application be passed to issue.

Should the Examiner believe a conference would be of benefit in expediting the prosecution of the instant application, he is hereby invited to telephone counsel to arrange such a conference.

Respectfully submitted,

  
Donald R. Studebaker  
Reg. No. 32,815

Nixon Peabody LLP  
401 9<sup>th</sup> Street N.W.  
Suite 900  
Washington, D. C. 20004  
(202) 585-8000

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